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UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

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VARIATIONS IN THE COMPOSITION AND GRADE OF COTTONSEED  
PRODUCED IN THE STATES OF  
ALABAMA, GEORGIA, NORTH CAROLINA, AND SOUTH CAROLINA,  
CROP YEARS OF 1934-35 TO 1937-38

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By G. S. Meloy,  
Senior Marketing Specialist

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Cottonseed Quality Estimated

The cottonseed-crushing industry has grown rapidly since 1870. In that year the industry consisted of 26 mills, which crushed only about 2 or 3 percent of the seed produced. The crush had grown to about a million tons, or 25 percent of the total production, by 1890; and by 1914 more than 870 mills crushed more than five and one-half million tons, or 80 percent of the estimated tons of seed produced.

During all of this period of rapid growth in the industry, attention was centered on questions of processing technique and on improvements in the quality of the products of cottonseed. Little study was given directly to the composition of the seed. Under such conditions it became the general practice for crushing mills, occasionally during each season, to estimate the average quality of the cottonseed being marketed, and to base their purchase prices on such averages. From time to time, however, efforts were made by trade associations in the industry to formulate a method of discounting based on adulteration or on exceptional spoilage.

Standard Grades Established

In 1925 the U. S. Department of Agriculture undertook a study of the composition and quality of cottonseed as marketed for crushing purposes. As a result of these studies, on May 23, 1932, the first standards of the United States for the grading of cottonseed intended for crushing were officially promulgated by the Secretary of Agriculture.

These standards provide not only a basis for equitable discounts for off quality, but also a basis for equitable premiums for superiority. A basis grade was established of definite description both as to the quantity of products obtainable and as to the condition of the seed, which affects the costs of processing and the quality of the products (appendix A).



## Elements of Quality in Cottonseed

The standard method of grading cottonseed is based (1) on the extent of development of the seed, as indicated by the quantity of oil and protein elaborated during growth, oil and protein being the two most valuable constituents; (2) on the deterioration that has taken place in the seed between the maturation of the bolls<sup>1/</sup> and the time of delivery to the purchasing mill, as indicated by the percentage of free fatty acids in the oil; and (3) on the quantity of moisture and foreign matter, in deleterious quantities, that have been absorbed by or incorporated in the seed before sale.

To measure the development of the seed constituents, a method is provided for determining a quantity index. To measure deterioration and to take into account the excesses of moisture and foreign matter, a method is provided for determining a quality index. To determine the grade or relative value in relation to a base, a method is provided for combining the quantity index with the quality index, the result being the grade. In practice, the grade is used as a value index related to the price quoted at the time of sale for cottonseed of the base grade. The base grade is known as grade 100; premium grades are those above 100; and discount grades are those less than 100.

## Sampling and Analysis Standardized

The necessity for accurate sampling of cottonseed and for the accurate chemical analysis of samples was recognized as a problem precedent to the establishment of the standard grades. Therefore, coincident with the promulgation of the cottonseed standards, approved methods were published for both the drawing and the handling of samples and for the procedure to be followed in making chemical analyses and calculating the grade of cottonseed.<sup>2/</sup>

From experiences gained in the practical application of the methods of sampling and analyzing cottonseed, as well as from continued studies of the subjects, amendments to the procedure have been made from time to time.

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<sup>1/</sup> Meloy, G. S. An Hypothesis Concerning the Role of the Enzymes in the Relative Value of Cottonseed. Oil and Soap. Vol. XVI, No. 9, p. 174.

<sup>2/</sup> United States Department of Agriculture, Bur. Agr. Econ. The Official Standards of the United States for the Grading, Sampling, and Analyzing of Cottonseed Sold or Offered for Sale for Grading Purposes. U. S. Dept. Agr. Serv. and Regulat. Announc. (Bur. Agr. Econ.) No. 133. 10 pp. 1932.

Meloy, G. S. Development of Standards for Grades of Cottonseed. U. S. Bur. Agr. Econ. 31 pp. 1935. (Mimeographed.)

It is believed that these changes have increased the reliability and accuracy of the sampling, analyzing, and grading procedures. The methods of sampling and chemical analysis, approved by the Chief of the Agricultural Marketing Service on July 5, 1939, contain the latest revisions.<sup>3/</sup>

#### First Amendment to Standard Grades

The cottonseed standards are what are known as permissive standards in that it is optional whether they be used in the marketing of cottonseed. Nevertheless, since their establishment a large number of transactions in cottonseed have been based on the standards. This has been particularly true in the cotton-producing States in the Mississippi Valley, where each season since the establishment of the standards, the grading of cottonseed has become more and more popular as a market practice with producers, middlemen, and managers of crushing mills. During the season of 1936-37, the number of lots of cottonseed that were marketed on grade in the Mississippi Valley was practically double that for previous seasons. Moreover, the premiums and discounts based on the grades as an index of relative value became increasingly important, especially in the minds of the sellers of cottonseed. These conditions demonstrated the fact that whole grades were too broad, therefore the standards were amended on July 30, 1937, to provide for half grades (appendix B).

#### Supervision of Sampling and Grading

Interest in the marketing of cottonseed on grade became so keen that at the beginning of the season of 1937-38 the Department of Agriculture undertook the supervision of both the sampling and the grading of all cottonseed sold for crushing in the Mississippi Valley, including that portion of Louisiana northeast of the Red River; Arkansas, except that part contiguous to Oklahoma and Texas; Mississippi; Missouri; Illinois; Kentucky; and western Tennessee. This was done by means of licensed and bonded samplers and of licensed chemists.

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<sup>3/</sup>

United States Department of Agriculture, Agr. Mktg. Serv. Methods of Drawing and Preparing Official Samples of Cottonseed. For Licensed Cottonseed Samplers. Approved by the Chief . . . July 5, 1939. 4 pp. 1939. (Mimeographed.)

United States Department of Agriculture, Agr. Mktg. Serv. Methods of Chemical Analysis and Grade Calculations for Cottonseed. For Licensed Cottonseed Chemists. Approved . . . July 5, 1939. 12 pp. 1939. (Mimeographed.)



The work of both was supervised by a corps of inspectors regularly employed by the Department for the purpose. Chemists' licenses were issued only to commercial and independent chemists who could demonstrate their ability to analyze samples of cottonseed accurately and who agreed to have their laboratories supervised by qualified agents of the Department.

This official supervision apparently gave all parties greater confidence in the sampling and grading, for the number of lots of seed that were sampled and graded that season was greatly increased -- in fact, was again practically doubled in some of the States.

#### Second Amendment to Standard Grades

The cottonseed marketed in the Mississippi Valley States during the season of 1937-38 was of the poorest quality on record. The continued warm, humid weather during the harvest period, in the absence of suitable facilities for seed drying and curing, made it practically impossible to prevent spoilage. Many lots of cottonseed were so badly decomposed when offered for sale to the oil mills that it was not possible to process them. In many instances it was found that when these seed were graded according to the official standards, the grades were so low that they no longer were true indexes of relative value. Since this contingency had not been anticipated when the standards were established, the standards were again amended on June 7, 1938, by providing that all lots of cottonseed which, upon analysis, were found so low in quality as to result in a grade below 25, should not be graded on the standards but should be left the subject of negotiation (appendix C).

#### Analyses Reported to Department of Agriculture

Immediately after the establishment of the standards, in 1932, arrangements were made by the Department of Agriculture with all chemists, both commercial and private, whereby a copy of each cottonseed analysis and grade report, when made according to the official standards, would be furnished the Department for its study. These reports have given the Department a vast amount of data relative to the composition and the resulting grades of cottonseed produced in practically every county in each State east of Texas and Oklahoma.

The practice of marketing cottonseed on the basis of grade grew rapidly in the Mississippi Valley cotton-producing States of Arkansas, Louisiana, Missouri, Mississippi, and Tennessee<sup>4/</sup>, until during the season of 1938-39 it had become a well-established practice for practically all cottonseed to be marketed on the basis of grade.

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<sup>4/</sup> Meloy, G. S. Variations in the Composition and Grade of Cottonseed Produced in the States of Arkansas, Louisiana, Mississippi, and Tennessee, Seasons of 1934-35 to 1937-38. U. S. Bur. Agr. Econ. 22 pp. June 1939. (Mimeographed.)



## Grading Cottonseed in the Southeastern States

Occasionally efforts have been made to introduce the United States standard grades into the cottonseed market in the Southeastern States, but with comparatively little success. Failure in these efforts is probably attributable to the diversified opinions among the cottonseed crushers as to the standards themselves. Shortly after the standards were established in 1932 some of the crushers located in the Southeastern States refused to use the standards as established, but attempted to put into effect a modification of them; that is, to use the quality index as the grade without considering the quantity index. This amounted to a refusal to recognize premium grades while taking advantage of all deductions in price that might become available. Many of the crushers recognized the unfairness of such a marketing procedure and refused to go along with the program. They preferred not to give the appearance of grading unless all the factors of value considered in the official standards were taken into account.

Although discounts for off quality might discourage careless handling and adulteration, the absence of discounts lends no incentive to the giving of any special harvesting or storage care to the seed, nor does it encourage any special efforts to increase the yields of oil or protein through the use of better varieties or better cultural practices.

## Incomplete Reports Received from Southeastern States

Even though buying and selling cottonseed on the basis of grade has not been practiced generally in the Carolinas and Georgia, and only to a slightly greater extent in Alabama, nevertheless a number of the more progressive crushing mills have made it a practice to sample and grade a large percentage of their purchases -- generally for their own information. This is done particularly to check their manufacturing procedure and yields of products rather than for information to be used as a basis for price differences. Copies of these grade reports have been furnished regularly to the Department for study. The Department recognizes that there may be a bias in such reports; in other words, that they may or may not represent a complete cross-section of the seed produced in each State. An idea of the degree of local or sectional bias possible in the different States might be suggested by using the estimates of cottonseed produced in each State. If we assume that approximately 80 percent of the estimated tonnage of cottonseed produced during the season of 1937-38 was crushed, then the cottonseed analysis and grade reports received by the Department compared with the total crush as follows: One report for each 26.3 tons in Mississippi; one for each 135.0 tons in North Carolina; one for each 79.0 tons in South Carolina; one for each 63.2 tons in Georgia; and one for each 59.9 tons in Alabama. In some instances a bias might be introduced through a tendency on the part of mills to sample and grade only those lots of seed suspected of being low in grade; but, since the purpose of such analyzing and grading was to check manufacturing efficiency, each such mill would probably resist any tendency to secure information based on biased samples.

With these reservations, the figures given in the tables probably represent the extremes and averages in the oil and protein, expressed in terms of equivalent ammonia contents of the cottonseed produced in the States covered; but the variations in grades shown do not bear a direct relationship to the prices received for cottonseed sold, since grading was not practiced generally in these States during this period. They do indicate the variations in prices that would have been paid for cottonseed if grading on the U. S. standards had been practiced.

Although the seasonal variations and the averages of the grades are of interest for general comparisons, it is believed that, from the producer's standpoint, the distribution of the grades is of even greater interest. Data showing such distributions are presented in tables 5, 6, 7, and 8; since the bulk of the lots graded was classified between grade 80 and grade 120, all lots falling below 80 in grade are grouped as one item in each table. Producers should be particularly interested in the evidence that, in spite of seasonal vicissitudes that may result in reducing the general quality of the cottonseed, a large number of shipments sold each month of each season had been so carefully tilled, harvested, and handled as to be classified in the premium grades.

#### Explanation of Tables

In brief explanation of the tables, it may be pointed out that the yields of oil and cake given are the expected yields under standard manufacturing efficiency. Actual yields, therefore, may be slightly more or slightly less than the figures given in the tables; but the averages are believed to be fairly close to the actual averages. An explanation of the record for a single month should enable a reader to understand the tables.

Referring to table 1, it will be seen, for example, that in Alabama 101 lots of cottonseed were sampled and graded during the month of August 1934. The oil content varied from 15.4 percent to 18.6 percent and averaged 17.21 percent. The yields of oil varied from 253 pounds to 316 pounds and averaged 289.2 pounds per ton of seed. The ammonia varied from 3.05 percent to 3.51 percent and averaged 3.30 percent which, when calculated as protein, represented respectively 15.69 percent, 18.06 percent, and 16.94 percent of protein.

From these protein contents it is possible to produce cake of 41.13 percent protein content, ranging from 716.8 pounds to 824.3 pounds and averaging 775.5 pounds per ton of seed.<sup>5/</sup> The quantity index on the basis of the official standards varied from 84.8 to 98.1 and averaged 93.64.

The quality index of all lots was lowered for cause. These causes were divided as follows: Five lots were found to contain excesses of free fatty acids in the oil, one lot contained 2.4 percent of free fatty acids, and the five lots

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<sup>5/</sup> Meloy, G. S. Relation of the Ammonia Content of Cottonseed to the Quantity and Quality of Cake Produced. U. S. Agr. Mktg. Serv. 3 pp. July 1939. (Mimeographed.)



averaged 2.10 percent -- or 0.3 above the tolerance -- resulting in an average reduction in the quality indexes of 1.50 units for this cause. All lots contained more than 12 percent moisture, the highest moisture content being 22.9 percent. The average moisture content was 18.7 percent, so that the quality indexes of these lots were therefore reduced an average of 6.70 units because of excesses of moisture. One lot contained more than 3 percent foreign matter, the foreign matter content being 6.5 percent, and the reduction in the quality index, because of foreign matter, being 3.50 units. It is evident that the quality indexes of at least five of the 101 lots were reduced for two or more causes.

None of the 101 lots that were sampled and graded were classified as of superior quality. The range of the grades was from 76 to 96, and the average of the grades was 87.11.

#### Variations in Oil and Protein.

A study of tables 1, 2, 3, and 4 will show that during the 4-year period covered, the range in the oil content of cottonseed produced in the States of Alabama, Georgia, North Carolina, and South Carolina was from 12.8 to 24.1 percent; the average range was from approximately 14.0 percent to approximately 21.8 percent, or an average difference of 155 pounds of oil per ton of seed. The available oil per ton of seed crushed will depend not only on the oil content of the seed but also on manufacturing procedure and the quantity of cake produced. The quantity of cake produced will depend not only upon the protein content of the seed but also on the protein content of the cake made from it. The tables further show that the protein content varied, in terms of ammonia, from 2.65 to 4.61, and that the average variation was from 2.92 to 4.37 percent ammonia. These ammonia percentages indicate a range of yields of cake, under standard manufacturing procedure, of 41.13 percent protein content of from 686 to 1027 pounds per ton of seed.

#### Variations in Deterioration and Adulteration

The following table shows the percentages of the total lots, in each State, that on analysis were found to contain free fatty acids, moisture, and foreign matter in excess of the tolerances provided in the standards. The figures are derived from tables 1, 2, 3, and 4. The standards provide tolerances of 1.8 percent for free fatty acids, 12.0 percent for moisture, and 3.0 percent for foreign matter. The highest content of each item is also given.



State	Content in Excess of Tolerances in Standards					
	Free Fatty Acids		Moisture		Foreign Matter	
	All	Highest	All	Highest	All	Highest
	lots	content	lots	content	lots	content
	Percent	Percent	Percent	Percent	Percent	Percent
Alabama	49.5	22.5	47.4	30.4	3.00	31.6
Georgia	46.9	45.0	41.2	36.6	1.25	38.9
North Carolina	34.9	20.0	60.5	29.3	3.80	20.6
South Carolina	56.2	36.6	48.4	34.8	0.30	17.7

#### Below Grade and Premium Grades

Provision for the classification of samples of cottonseed as Below Grade was officially established at the close of the season of 1937-38. It will be noted that no samples that originated in either Alabama or North Carolina were so classified, but that 23 samples from South Carolina and one from Georgia were reported as Below Grade.

Not only do the United States standards for the grading of cottonseed provide for premium grades on the basis of the extra development of the seed as indicated by oil and protein contents above the average contents, but they also provide an incentive to special care of the seed by means of a special quality index for seed of a quality that is considered ideal from a crushing or processing standpoint. Such seed are designated as of Superior Quality.

Samples of Superior Quality cottonseed have been found but rarely in the Southeastern States during the four seasons under consideration; in Alabama, 45 times; in Georgia, once; in North Carolina, 59 times; and in South Carolina, 48. This is in contrast with its occurrence in the Mississippi Valley where marketing cottonseed on the basis of the United States standards has been an established practice for several seasons, thus encouraging producers and ginner to give special care to the handling of the seed cotton and of the seed. In Arkansas more than 1,200 lots of seed during this period were classified as Superior Quality and received the increase in grade that is provided. In Mississippi more than 3,000 lots were so classified. Even during the season of 1937-38, when seasonal conditions in the Mississippi Valley caused the lowest quality of cottonseed of which we have record, 11 lots of seed grown in each of the States of Mississippi and Arkansas were classified as of Superior Quality.

A study of tables 5, 6, 7, and 8 shows that if cottonseed had been marketed on the basis of the official standards during the seasons covered in this report, premium grades would have occurred as high as 125.0 in Alabama, 116.0 in Georgia, 119.0 in North Carolina, and 113.0 in South Carolina. The percentages of all samples that were classified in the premium grades, together with the highest grade and the average of the premium grades, are as follows:

<u>State</u>	<u>Season</u>	<u>Percent of all lots in premium grades</u>	<u>Highest grade</u>	<u>Average of premium grades</u>
Alabama	1934-35	79.5	125.0	105.53
	1935-36	25.2	116.0	103.93
	1936-37	23.1	111.5	102.70
	1937-38	29.8	113.0	103.47
Georgia	1934-35	54.5	113.0	103.34
	1935-36	23.8	116.0	104.97
	1936-37	38.5	116.0	103.22
	1937-38	39.9	115.5	103.63
North Carolina	1934-35	50.0	117.0	105.68
	1935-36	49.7	119.0	105.29
	1936-37	25.1	111.0	103.46
	1937-38	46.2	113.5	103.67
South Carolina	1934-35	31.2	110.0	103.10
	1935-36	12.8	113.0	103.88
	1936-37	21.7	112.0	102.90
	1937-38	26.7	112.0	102.90

In other words, the proportion of cottonseed classified in the premium grades varied, during the seasons covered in this report, from 23.1 percent to 79.5 percent for cottonseed grown in Alabama; from 23.8 percent to 54.5 percent for Georgia seed; from 25.1 percent to 50.0 percent for North Carolina seed; and from 12.8 percent to 31.2 percent for seed produced in South Carolina.

#### Basis of Price in Graded and Ungraded Markets

Cotton farmers as well as cotton ginner and other dealers in cottonseed, of course, should be interested in the proportion of premium grades and the opportunities for increasing the proportions of these grades. But they should be most interested in knowing the basis on which prices offered for cottonseed



are arrived at in a market in which grading is not practiced, so that they can compare such markets with those markets in which the price offered is directly related to the publicly known value of the products obtainable from cottonseed of a basis grade, and in which each lot marketed is paid for on its own grade or quality. In every cottonseed market in which seed grading is not practiced, the price is based chiefly on estimates of the quality and rumors of change in quality of the cottonseed that is marketed currently. In order to protect the interests of a mill, a safety margin is frequently included in the calculation of the estimated value. In every such market it is the regular custom to make deductions from the price offered because of special or specific off qualities. The futility of attempting to estimate the average quality and value of cottonseed is apparent from a study of the lowest, highest, and actual average of the grades for each month in each of the four States considered in this report. These data for each of the seasons are as follows:

<u>State</u>	<u>Season</u>	<u>High</u>	<u>Low</u>	<u>Average</u>
Alabama	1934-35	125.0	47.0	102.8
	1935-36	116.0	49.0	94.1
	1936-37	111.5	53.0	95.8
	1937-38	113.0	34.5	91.7
Georgia	1934-35	113.0	51.0	99.8
	1935-36	116.0	33.0	86.1
	1936-37	116.0	45.0	97.5
	1937-38	115.5	B.G.	91.7
North Carolina	1934-35	117.0	67.0	98.7
	1935-36	119.0	45.0	97.6
	1936-37	111.0	27.5	93.2
	1937-38	113.5	49.5	97.6
South Carolina	1934-35	110.0	48.0	96.7
	1935-36	113.0	35.0	84.6
	1936-37	112.0	41.5	93.7
	1937-38	112.0	B.G.	90.2

The matter of price making and of price maintenance is further complicated by the fact that not only is there a wide and material difference between the average grade or quality of the seed as between States, but data not included in this report show that frequently there are even greater differences in the average grade of cottonseed produced in different parts of the same State. For example, seed produced in eastern North Carolina are frequently much lower in average grade than seed produced in the western part of the State. Similarly, seed from the southern counties in South Carolina are frequently much lower in average grade than seed from the northern and western parts of the State. In the same way, we might compare cottonseed produced in different sections of Georgia and Alabama. The variations in the average of the grades of cottonseed as between States and seasons were as follows:



<u>State</u>	<u>1934-35</u>	<u>1935-36</u>	<u>1936-37</u>	<u>1937-38</u>
Alabama	102.8	94.1	95.8	91.7
North Carolina	98.7	97.6	93.2	97.6
South Carolina	96.7	84.6	93.7	90.2
Georgia	99.8	86.1	97.5	91.7

Moreover, in passing from one section of production to another the transition from low grade to high grade is gradual and not abrupt along any natural line. Under such conditions the low-grade seed found in some very limited areas may have an unwarranted and unjustifiably depressing effect on the general price throughout the whole competitive territory; and this depressing effect may be exaggerated because of the ease with which modern transportation brings such seed into markets where they compete with the high-grade product.

On the other hand, where marketing is based on recognized standard grades, the price offered for cottonseed of the base grade will fit all contingencies and may be compared directly with the market value of the products obtainable from seed of the base grade. For example, the average yields per ton of cottonseed of the basis grade under standard milling efficiency are: 313 pounds of crude oil, 822 pounds of cake or meal of 41.13 percent protein content, 125 pounds of linters of U. S. grade No. 4, and approximately 640 pounds of cottonseed hulls. Each lot of seed marketed is paid for on its own grade value and that value is directly related to the price offered for seed of the base grade. High-grade lots of seed, regardless of whether they originate in areas reported to be of low quality or in areas having a reputation for high quality, receive justifiable premiums, and low-grade lots of seed receive equitable and justifiable discounts.

#### Summary

This report is based on the analysis and grade of samples of cottonseed drawn, analyzed, and graded during the 4 crop years beginning with 1934-35 and ending with 1937-38.

Of the cottonseed produced in Alabama, 17,424 samples were considered; from Georgia, 20,138; from North Carolina, 8,439; and from South Carolina, 14,807.

The oil contents of cottonseed produced in Alabama varied from 12.8 to 24.1 percent, and the yields of oil per ton of cottonseed, under standard manufacturing conditions, varied from 201 to 422 pounds. The pounds of cake of 41.13 percent protein available per ton of seed varied from 575.8 to 1057.5 pounds.

The oil contents of cottonseed produced in Georgia varied from 13.1 to 22.2 percent, and the yields of oil per ton of cottonseed varied from 205 to 386 pounds. The pounds of 41.13 percent protein cake available varied from 653.3 to 1083.4 per ton of seed.

The oil contents of cottonseed produced in North Carolina varied from 13.2 to 22.7 percent; and the yields of oil per ton of seed, from 213 to 396 pounds. The pounds of cake of 41.13 percent protein available per ton of seed varied from 622.8 to 1069.2 pounds.

The oil contents of cottonseed produced in South Carolina varied from 13.1 to 21.5 percent; and the yields of oil per ton of seed, from 204 to 375 pounds. The pounds of cake of 41.13 percent protein content available per ton of seed varied from 683.8 to 1048.1 pounds.

The quantity index based on the United States standards varied as follows: In Alabama, from 71.6 to 125.3; in Georgia, from 74.4 to 117.5; in North Carolina, from 71.5 to 118.4; and in South Carolina, from 72.9 to 113.5. This brings about an average spread of 36.1 percent in the index of the quantity of products elaborated during growth.

During the 4-year period studied, 56.2 percent of the samples taken from cottonseed grown in South Carolina contained excesses of free fatty acids, as did 49.5 percent of the samples from Alabama, 46.9 percent of those from Georgia, and 34.9 percent of those from North Carolina.

Excesses of moisture, above 12 percent, were found in 60.5 percent of the samples from North Carolina; 48.4 percent of the samples from South Carolina; 47.4 percent of the samples from Alabama; and 41.2 percent of the samples from Georgia.

Foreign matter in excess of 3.0 percent was found in 3.8 percent of the samples of seed grown in North Carolina; in 3.0 percent of the Alabama samples; in 1.25 percent of the Georgia samples; and in 0.3 percent of the South Carolina samples.

It is not possible to estimate accurately the average grade or quality of cottonseed currently marketed, so as to determine an average value; neither is it possible to maintain regional prices related to high quality in one section of production and to low quality in another section of production. The ease of modern transportation facilitates the natural attraction of low-quality seed to high-quality markets where prices are higher; but the arrival of such seed in those markets acts as a price depressant there.

Wherever the marketing of cottonseed on the basis of the official standard grades is practiced, base-grade prices tend to become uniform. The justification of a particular price level may be determined by checking it against prices for cottonseed products.

Marketing cottonseed on the basis of the United States standard grades has not been practiced to any material degree during the four seasons 1934-35 to 1937-38, in the States of North Carolina, South Carolina, Georgia, or Alabama.

Efforts were made by some of the crushing mills in this territory, particularly in Georgia, to put a modification of the standards into market practice. Under this modified grading plan all premium grades were eliminated and all factors of discount were retained. The plan was not successful because of its manifest unfairness.



ORDER OF PROMULGATION

PUBLIC NOTICE ESTABLISHING THE GRADES, METHODS OF SAMPLING,  
ANALYZING, AND GRADING COTTONSEED SOLD OR OFFERED FOR  
SALE FOR CRUSHING PURPOSES WITHIN THE UNITED STATES

By virtue of the authority vested in the Secretary of Agriculture by the act of Congress entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1932, and for other purposes," approved February 23, 1931 (Public, No. 717, 71st Cong.), I, Arthur M. Hyde, Secretary of Agriculture, do hereby fix, establish, and promulgate the following standards of class, quality, and condition for cottonseed, which shall become the official standards of the United States for the grading and analysis of cottonseed sold or offered for sale for crushing purposes, on the 1st day of June, 1932, and be in force and effect as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.

SECTION 1. The grade of cottonseed shall be determined from the analysis of samples, and it shall be the result, stated as the nearest whole number without fractions, obtained by multiplying a quantity index by a quality index, as hereinafter provided.

- (a) The basis grade of cottonseed shall be grade 100.
- (b) High grades of cottonseed shall be those grades above 100.
- (c) Low grades of cottonseed shall be those grades below 100.

SEC. 2. The following equations shall be used in determining the quantity index of cottonseed:

- (a) For cottonseed, that by analysis contain not less than 17 per cent of oil, the quantity index shall equal 4 times the percentage of oil, plus 6 times the percentage of ammonia, plus 5.
- (b) For cottonseed, that by analysis contain less than 17 per cent oil, the quantity index shall equal 5 times the percentage of oil, plus 6 times the percentage of ammonia, minus 12.

SEC. 3. The quality index of cottonseed shall be a percentage of purity and soundness, and shall be determined as follows:

- (a) Superior quality cottonseed.--Cottonseed that, by analysis, contain less than one-half per cent foreign matter, and more than 8 per cent but less than 10 per cent moisture, and less than three-fourths per cent free fatty acids in the oil in the seed shall be known as superior quality cottonseed and shall have a quality index of 102 per cent.
- (b) Prime quality cottonseed.--Cottonseed that, by analysis, contain not more than 3 per cent foreign matter, not more than 12 per cent moisture, and not more than 1.8 per cent free fatty acids in the oil in the seed, shall be known as prime quality cottonseed and shall have a quality index of 100 per cent.

(c) Subquality cottonseed.--Cottonseed that, by analysis, contain foreign matter, moisture, and/or free fatty acids in the oil in the seed in excess of the percentages shown in section 3-b, or are seed from seed cotton that has been processed in a boll breaker, or other device for preparing snapped cotton or bollies for ginning, shall be known as sub-quality cottonseed; and the quality index of such cottonseed shall be found by reducing the quality index of prime quality cottonseed as follows:

(1) Not to exceed five-tenths of a unit for each 0.1 per cent of free fatty acids in the oil in the seed in excess of 1.8 per cent; provided that this reduction shall not exceed 50 units of the quality index of prime quality cottonseed.

(2) Not to exceed 1 unit for each 1 per cent of foreign matter in excess of 3 per cent.

(3) Not to exceed 1 unit for each 1 per cent of moisture in excess of 12 per cent.

(4) Not to exceed 8 units when the seed cotton has been processed as snapped cotton or bollies before ginning.

(d) Off quality cottonseed.--Cottonseed that have been treated by either mechanical or chemical process other than the usual cleaning, drying, and ginning (except such sterilization as may be required by the United States Department of Agriculture for quarantine purposes) or that are hot or fermented, or that upon analysis are found to contain more than 25 per cent foreign matter, or more than 25 per cent moisture, or more than 40 per cent combined moisture and foreign matter, shall be known as off quality cottonseed and may not be graded.

SEC. 4. Sampling of cottonseed.--In the application of these standards the following methods shall be observed in the drawing and handling of samples of cottonseed.

(a) Sampling before unloading.--Portions shall be drawn at different points in each end and in the middle of the car with a suitable cottonseed trier or sampling device. In drawing samples with a trier, cross sections shall be taken from the top to the bottom of the car, if possible. In the absence of a trier, holes shall be dug at various points at least 30 inches deep with a small (8-tine) fork and portions taken from the bottom and sides of these holes.

(b) Sampling during unloading.--For this purpose the sampler shall be provided with a suitable receptacle which he shall place in the center of the unloading chute at regular intervals, as the seed are being ejected from the car, to receive portions of the seed.

Whether drawn before or during unloading the several portions drawn from car lots shall total not less than 50 pounds in weight.

(c) Sampling of truck or wagon seed.--In drawing samples of truck or wagon loads of cottonseed, the same methods shall be used as in sampling car lots before unloading. The total weight of the portion drawn shall be not less than 2 1/2 pounds for each ton of seed in the load.



(d) Handling samples.--Samplers shall be provided with metal containers with close-fitting covers large enough to hold 60 or 70 pounds of cottonseed. Each portion of a sample as drawn shall be immediately placed in such a receptacle and the cover promptly replaced. As soon as the full sample has been taken it shall be carefully weighed, then cleaned of foreign matter, and carefully reweighed. The loss in weight shall be calculated as foreign matter. After the sample is cleaned the seed shall be mixed either by means of a suitable mechanical mixer or by heaping together and mixing by passing the hands or a small shovel up through the heap, repiling and spreading by pressing. Finally not less than 2 quarts shall be packed in an air-tight tin can or Mason jar and sent to the laboratory for analysis and grading. All cleaning, mixing, and handling of samples shall be done expeditiously and without undue exposure.

SEC. 5. Analysis.--The methods for analyzing cottonseed recommended from time to time by the interbureau committee of this department on standard methods of sampling and analyzing cottonseed shall be used.

(SEAL) In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed in the City of Washington, this 23d day of May 1932.

(s) ARTHUR M. HYDE

Secretary.



PUBLIC NOTICE ESTABLISHING STANDARDS FOR GRADES OF  
COTTONSEED SOLD OR OFFERED FOR SALE FOR  
CRUSHING PURPOSES WITHIN THE UNITED STATES

By virtue of the authority vested in the Secretary of Agriculture by the Act of Congress entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1938, \* \* \* and for other purposes," (Public No. 173, 75th Congress), I, M. L. Wilson, Acting Secretary of Agriculture, do hereby fix, establish, and promulgate the following official standards of the United States for grades of cottonseed sold or offered for sale for crushing purposes, the same to supersede the standards for cottonseed promulgated May 23, 1932, and to be in force and effect as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.

SECTION 1. The grade of cottonseed shall be determined from the analysis of samples, and it shall be the result, stated in the nearest whole or half numbers, obtained by multiplying a quantity index by a quality index and dividing the result by 100 as hereinafter provided.

- (a) The basis grade of cottonseed shall be grade 100.
- (b) High grades of cottonseed shall be those grades above 100.
- (c) Low grades of cottonseed shall be those grades below 100.

SEC. 2. The following formulae shall be used in determining the quantity index of cottonseed:

- (a) For cottonseed, that by analysis contain 17 per cent of oil or more, the quantity index shall equal 4 times the percentage of oil, plus 6 times the percentage of ammonia, plus 5.
- (b) For cottonseed, that by analysis contain less than 17 per cent oil, the quantity index shall equal 5 times the percentage of oil, plus 6 times the percentage of ammonia, minus 12.

SEC. 3. The quality index of cottonseed shall be a percentage of purity and soundness, and shall be determined as follows:

- (a) Superior quality cottonseed.--Cottonseed that, by analysis, contain not less than 18.7 per cent oil, nor more than one-half of one per cent foreign matter, 8 per cent but not more than 10.0 per cent moisture, and not more than one-half of one per cent free fatty acids in the oil in the seed shall be known as superior quality cottonseed and shall have a quality index of 102.
- (b) Prime quality cottonseed.--Cottonseed that, by analysis, contain not more than 3 per cent foreign matter, not more than 12 per cent moisture, and not more than 1.8 per cent free fatty acids in the oil in the seed, shall be known as prime quality cottonseed and shall have a quality index of 100 per cent.

(c) Subquality cottonseed.--Cottonseed that, by analysis, contain foreign matter, moisture, and/or free fatty acids in the oil in the seed in excess of the percentages shown in section 3-b, shall be known as sub-quality cottonseed; and the quality index of such cottonseed shall be found by reducing the quality index of prime quality cottonseed as follows:

(1) Not to exceed five-tenths of a unit for each 0.1 per cent of free fatty acids in the oil in the seed in excess of 1.8 per cent.

(2) Not to exceed 1 unit for each 1 per cent of foreign matter in excess of 3 per cent.

(3) Not to exceed 1 unit for each 1 per cent of moisture in excess of 12 per cent.

(d) Off quality cottonseed.--Cottonseed that have been treated by either mechanical or chemical process other than the usual cleaning, drying, and ginning (except such sterilization as may be required by the United States Department of Agriculture for quarantine purposes) or that are "hot" or fermented, or that upon analysis are found to contain 13 per cent or more free fatty acids in the oil, or more than 25 per cent foreign matter, or more than 25 per cent moisture, or more than 40 per cent combined moisture and foreign matter, shall be designated as "Off Quality Cottonseed, approximate grade \_\_\_\_."

SEC. 4. Sampling, analysis, and certification of samples and grades.--The drawing and preparation and certification of samples of cottonseed and the analysis and certification of grades of cottonseed shall be performed in accordance with methods approved from time to time by the Chief of the Bureau of Agricultural Economics.

In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed in the City of Washington, this 30th day of July, 1937.

(SEAL)

(s) M. L. WILSON,  
Acting Secretary.



UNITED STATES DEPARTMENT OF AGRICULTURE  
Bureau of Agricultural Economics  
Washington, D. C.

Public Notice Establishing Standards for Grades of  
Cottonseed Sold or Offered for Sale for Crush-  
ing Purposes Within the United States.

By virtue of the authority vested in the Secretary of Agriculture by the Act of Congress entitled "An Act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1938, \* \* \* and for other purposes" (Public No. 173, 75th Congress), I, H. A. Wallace, Secretary of Agriculture do hereby fix, establish, and promulgate the following official standards of the United States for grades of cottonseed sold or offered for sale for crushing purposes the same to supersede the standards for cottonseed promulgated July 30, 1937, 1/ and to be in force and effect as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.

SECTION 1. The grade of cottonseed shall be determined from the analysis of samples, and it shall be the result, stated in the nearest whole or half numbers, obtained by multiplying a quantity index by a quality index and dividing the result by 100 as hereinafter provided.

- (a) The basis grade of cottonseed shall be grade 100.
- (b) High grades of cottonseed shall be those grades above 100.
- (c) Low grades of cottonseed shall be those grades below 100.

SEC. 2. The following formulae shall be used in determining the quantity index of cottonseed:

- (a) For cottonseed that by analysis contain 17 percent or more of oil, the quantity index shall equal 4 times the percentage of oil, plus 6 times the percentage of ammonia, plus 5.
- (b) For cottonseed that by analysis contain less than 17 percent oil, the quantity index shall equal 5 times the percentage of oil, plus 6 times the percentage of ammonia, minus 12.

SEC. 3. The quality index of cottonseed shall be an index of purity and soundness, and shall be determined as follows:

- (a) Superior quality cottonseed.--Cottonseed that, by analysis, contain not less than 18.7 percent oil, nor more than one-half of one percent foreign matter, 8 percent but not more than 10.0 percent moisture, and not more than one-half of one percent free fatty acids in the oil in the seed shall be known as superior quality cottonseed and shall have a quality index of 102.

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1/ 2 F. R. 1608 (DI).



(b) Prime quality cottonseed.--Cottonseed that, by analysis, contain not more than 3 percent foreign matter, not more than 12 percent moisture, and not more than 1.8 percent free fatty acids in the oil in the seed, shall be known as prime quality cottonseed and shall have a quality index of 100.

(c) Subquality cottonseed.--The quality index of cottonseed that, by analysis, contain foreign matter, moisture, and/or free fatty acids in the oil in the seed in excess of the percentages shown in section 3-b shall be found by reducing the quality index of prime quality cottonseed as follows:

(1) Not to exceed five-tenths of a unit for each 0.1 percent of free fatty acids in the oil in the seed in excess of 1.8 percent.

(2) Not to exceed 1 unit for each 1 percent of foreign matter in excess of 3 percent.

(3) Not to exceed 1 unit for each 1 percent of moisture in excess of 12 percent.

Such cottonseed shall be known as subquality cottonseed, except as hereinafter provided.

(d) Off quality cottonseed.--Cottonseed that have been treated by either mechanical or chemical process other than the usual cleaning, drying, and ginning (except such sterilization as may be required by the United States Department of Agriculture for quarantine purposes) or that are fermented and hot, or that upon analysis are found to contain 12 percent or more free fatty acids in the oil, or more than 10 percent foreign matter, or more than 18 percent moisture, or more than 25 percent combined moisture and foreign matter, shall be designated as Off Quality Grade.

(e) Below grade cottonseed.--Cottonseed the grade of which when calculated according to section 3-c above is below Grade 25 shall be designated as "Below Grade Cottonseed." A grade shall not be indicated.

SEC. 4. Sampling, analysis, and certification of samples and grades.--The drawing and preparation and certification of samples of cottonseed and the analysis and certification of grades of cottonseed shall be performed in accordance with methods approved from time to time by the Chief of the Bureau of Agricultural Economics.

In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed, in the City of Washington, this 7th day of June 1938.

(SEAL)

(s) H. A. WALLACE,  
Secretary

(F. R. Doc. 38--1600; Filed, June 7, 1938; 12:37 p.m.)  
(Quoted from Federal Register, Volume 3, Number 111, June 8, 1938, pp. 1343-44.)

ALABAMA COTTONSEED: COMPOSITION AND GRADE

Table 1.

Month	Total Number of Samples	PERCENT OIL		YIELDS OIL Pounds per ton of seed		PERCENT AMMONIA		YIELDS % MEAL Pounds per ton of seed		QUANTITY INDEX		L O W Q U A L I T Y B Y C O A U S E S				BLOW GRADE	SUPERIOR QUALITY	GRADE		
		Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Free Fatty Acids		Moisture		Number of Samples	Number of Samples	Min. Max. Aver.		
												Number of Samples	Aver. Max. Reduction	Number of Samples	Aver. Max. Reduction					
SEASON 1934-35																				
August	101	15.4	18.6	17.21	253	316	289.2	716.8	824.8	775.5	84.8	5	2.4	1.50	101	22.9	6.70	76	96	87.1
September	438	16.7	21.3	19.37	275	370	330.4	723.8	954.1	841.3	92.1	77	11.8	3.70	287	23.4	1.88	47	111	102.1
October	285	17.8	24.1	19.39	296	422	336.8	766.1	951.7	890.7	98.2	97	2.4	1.40	88	17.2	0.66	95	125	105.2
November	194	18.0	20.8	19.42	302	360	334.4	799.0	954.1	864.8	99.3	14	2.9	2.40	14	12.6	0.30	98	111	106.3
December	165	18.1	20.9	19.75	305	361	337.0	794.3	930.6	857.7	99.1	6	5.5	9.50	6	12.3	0.25	97	110	105.6
January	8	19.1	20.6	20.11	324	357	346.2	773.1	857.7	815.4	103.3	1	3.8	10.00	-	11.8	-	96	108	104.8
February	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEASON 1935-36																				
August	670	14.2	20.5	17.66	231	355	296.2	669.8	983.4	824.8	71.6	174	8.0	4.57	668	29.0	5.99	64	106	90.0
September	1,712	12.8	21.3	18.13	201	370	305.6	709.7	994.0	850.7	71.6	951	10.5	6.22	1,518	22.9	2.78	49	112	97.6
October	1,065	16.4	21.6	18.85	269	374	317.0	749.7	1026.9	902.4	92.9	587	11.2	9.32	1,324	18.0	0.97	49	116	97.9
November	652	16.3	21.1	18.65	264	366	313.0	745.0	1008.2	900.0	93.8	374	12.5	11.20	166	15.0	0.76	49	110	95.9
December	340	15.3	20.6	18.58	246	354	314.6	766.1	1017.5	897.7	87.9	259	12.0	13.02	122	14.4	0.56	50	110	92.3
January	37	18.7	20.6	18.73	275	341	310.6	824.2	989.4	907.1	94.2	23	12.5	14.32	8	16.8	1.38	51	110	89.7
February	12	18.2	20.6	19.45	305	353	329.8	825.0	915.8	881.2	100.8	12	11.5	35.97	-	11.7	-	50	84	67.0
March	4	18.4	19.4	18.85	308	325	317.0	881.2	949.4	921.2	102.4	5	18.0	35.17	-	11.6	-	53	103	74.0
April	2	18.3	18.5	18.40	307	311	309.0	883.6	902.4	893.0	100.8	2	12.0	40.25	-	10.9	-	51	52	51.5
May	4	17.8	19.2	18.75	298	327	317.0	853.0	881.2	869.5	98.5	1	8.5	102.80	-	11.5	-	69	93	81.2
June	1	19.4	19.4	19.40	331	331	331.0	853.4	853.4	853.4	104.4	1	10.5	43.50	-	10.1	-	59	59	59.0
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEASON 1936-37																				
August	492	13.6	21.0	17.44	215	362	290.8	716.8	975.2	867.1	77.24	12	4.3	2.80	475	26.8	4.55	67.5	111.5	92.1
September	613	15.6	20.3	17.76	254	349	296.2	803.7	987.0	878.9	87.74	40	4.7	3.30	442	18.8	1.68	80.5	107.5	96.9
October	366	16.1	20.1	17.77	221	343	296.4	825.5	970.5	895.3	82.80	28	18.0	6.80	180	17.3	0.92	80.0	106.0	97.9
November	271	14.3	20.1	17.85	229	342	298.0	836.6	949.4	895.3	80.82	48	11.5	9.10	114	15.8	0.85	53.0	108.5	97.2
December	172	15.0	19.7	17.82	239	334	297.4	830.1	951.5	897.7	86.56	16	8.5	9.45	64	15.5	0.91	67.0	107.0	96.7
January	37	16.6	19.3	17.78	272	328	295.6	831.9	968.2	900.0	93.62	22	9.5	9.00	18	13.9	0.93	61.5	103.5	93.2
February	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEASON 1937-38																				
August	333	13.7	19.5	17.02	217	333	284.4	686.2	996.4	813.1	77.38	17	4.3	3.04	320	30.4	6.17	59.0	104.0	87.2
September	1,850	13.6	21.0	17.78	216	363	297.6	759.8	998.8	869.5	76.50	1,088	11.5	7.41	1,352	27.1	3.16	48.5	110.5	94.6
October	2,472	15.8	21.1	18.29	292	362	305.8	803.9	1043.4	900.0	88.58	1,486	14.5	9.90	917	15.5	0.63	48.5	113.0	95.6
November	1,472	15.8	20.5	18.32	295	350	306.4	803.7	1017.5	904.7	89.40	875	15.5	13.92	317	16.9	0.50	49.0	111.0	93.2
December	1,168	15.4	20.5	18.30	290	350	306.0	810.7	1057.5	904.7	86.78	761	17.0	15.96	285	16.6	0.47	43.0	110.5	91.1
January	869	16.0	20.3	18.36	258	348	307.2	801.3	1017.5	900.0	91.60	591	15.5	17.29	252	14.9	0.57	47.0	108.5	89.6
February	627	16.1	20.6	18.28	262	352	306.6	796.6	1043.4	897.7	92.50	570	22.5	20.21	85	15.2	0.38	34.5	109.5	83.4
March	498	16.2	19.8	18.21	262	339	304.2	799.0	1001.1	907.1	91.20	426	16.0	16.90	43	21.2	0.85	48.0	106.0	86.5
April	121	16.2	20.4	18.29	264	350	305.8	827.2	982.3	902.4	92.52	110	12.0	19.87	18	13.6	0.51	48.5	104.5	82.8
May	23	16.9	19.4	18.48	278	329	300.6	857.7	958.8	921.2	101.90	18	14.0	15.92	1	12.2	-	51.0	105.5	90.0
June	8	18.4	19.4	18.76	307	328	315.2	881.2	975.2	944.7	101.90	1	4.2	12.00	-	11.4	-	89.5	106.5	102.6
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEASONAL SUMMARIES																				
Season																				
1934-35	1,191	15.4	24.1	19.39	253	422	330.8	716.8	954.1	841.3	84.8	529	11.8	3.65	496	23.4	2.58	47	125	102.8
1935-36	4,960	12.8	21.6	18.35	201	374	309.0	669.8	1026.9	869.5	71.6	1,627	12.0	6.76	2,806	23.0	3.12	49	116	94.1
1936-37	1,953	13.6	21.0	17.70	215	362	295.0	716.8	989.4	883.6	77.24	1,381	18.0	6.70	1,313	26.8	2.48	50	111.5	95.6
1937-38	9,720	13.6	21.1	18.16	216	363	304.2	759.8	1057.5	893.0	76.50	15,931	22.5	13.10	3,650	30.4	2.02	47	125	102.8



Table 2. GEORGIA COTTONSEED: COMPOSITION AND GRADES

Month	Total Number of Samples	PERCENT OIL		YIELDS OIL Pounds per ton of seed		PERCENT ARMONIA		YIELDS SEED Pounds per ton of seed		QUANTITY INDEX		L O W Q U A L I T Y B Y C O A U S E S						SUPPLEMENTARY QUALITY	GRADE		
		Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Number of Samples	Free Fatty Acids	Moisture	Number of Samples	Foreign Matter	Aver. Reduc-tion				
SEASON 1934-35																					
August	261	14.9	21.1	18.07	242	367	304.4	3.04	4.09	3.56	714.4	961.1	836.6	83.3	109.2	98.64	226	13.4	8.90		
September	472	15.8	21.1	18.69	253	365	315.0	2.97	4.36	3.63	698.0	1024.6	853.0	82.2	111.7	101.38	288	11	4.60		
October	499	15.9	21.1	18.64	258	365	314.5	3.14	4.17	3.67	737.9	979.9	862.4	89.2	111.0	101.58	226	24	5.60		
November	366	16.6	20.5	18.87	272	358	319.4	3.22	4.18	3.69	756.7	982.3	867.1	94.2	110.3	102.62	73	40	5.90		
December	211	16.6	20.7	18.69	272	354	315.8	3.24	4.31	3.69	784.9	1012.8	867.1	94.0	111.1	101.90	51	34	7.65		
January	68	16.8	20.4	19.00	279	369	322.0	3.26	4.06	3.63	787.2	991.7	851.0	93.2	113.0	102.78	23	11	9.90		
February	42	17.5	20.2	18.75	291	346	317.0	3.33	4.03	3.66	782.5	947.0	860.1	97.5	107.9	101.96	13	9	5.10		
March	36	16.5	20.3	18.58	276	348	313.6	3.35	4.10	3.67	782.5	963.5	862.4	96.2	108.3	101.34	12	8	7.50		
April	11	16.4	20.4	18.49	266	351	310.8	3.05	4.20	3.79	810.7	987.0	890.6	95.1	107.6	101.70	6	6	7.6		
May	4	18.4	19.9	19.22	308	341	326.4	3.47	4.88	3.63	815.4	911.8	853.0	101.9	105.9	103.86	1	1	11.90		
June	4	17.5	18.5	18.20	291	319	306.0	3.36	4.62	3.68	856.6	937.7	864.5	97.5	102.3	99.88	3	3	9.90		
July	5	14.0	18.1	15.96	223	309	263.2	3.10	3.94	3.46	728.5	902.4	813.1	79.2	96.0	88.56	1	1	3.00		
SEASON 1935-36																					
August	557	14.3	21.2	17.94	226	367	301.8	2.99	4.28	3.62	702.6	1005.8	850.7	75.4	112.4	98.48	546	47	3.16		
September	1,722	13.8	21.0	18.09	217	362	303.8	2.84	4.21	3.65	667.4	989.4	857.7	79.6	112.6	99.26	1,665	937	26.0		
October	1,410	14.6	22.2	18.42	233	386	317.0	3.12	4.61	3.81	733.2	1083.4	895.3	83.8	116.3	103.06	1,344	1,234	25.76		
November	776	15.3	21.5	18.86	246	373	318.2	3.03	4.22	3.76	712.0	991.7	853.6	88.4	113.6	103.00	1,482	432	29.0		
December	577	15.2	21.5	18.95	244	370	320.0	2.78	4.30	3.70	651.3	1010.5	893.0	87.0	116.4	103.60	374	345	29.0		
January	209	15.5	20.8	18.87	249	356	316.6	3.27	4.59	3.85	768.4	1078.6	904.7	89.9	112.1	103.42	251	247	17.5		
February	345	15.5	22.1	18.87	266	383	317.4	3.27	4.66	3.88	768.4	1048.1	911.8	88.2	116.3	103.76	469	463	27.87		
March	500	16.3	21.2	18.76	265	366	315.2	3.44	4.53	3.89	808.4	1064.6	914.1	94.3	113.7	103.38	441	441	35.0		
April	149	16.7	20.6	18.84	274	352	316.8	3.44	4.38	3.87	808.4	1029.3	909.4	94.8	111.0	103.58	144	142	26.5		
May	112	15.6	20.8	18.77	250	356	315.4	3.48	4.46	3.90	817.3	1048.1	916.5	98.3	112.0	103.48	96	99	23.5		
June	8	18.0	19.7	18.78	300	335	315.6	3.79	4.09	3.90	890.6	961.1	916.5	98.6	106.5	103.52	8	8	17.0		
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SEASON 1936-37																					
August	329	13.7	21.0	17.64	216	361	294.8	3.08	4.26	3.67	723.8	1001.1	862.4	83.90	111.40	97.58	311	22	18.3		
September	594	15.7	20.6	18.47	253	352	310.4	3.26	4.39	3.74	766.1	1031.6	878.9	89.30	111.20	101.32	347	32	14.5		
October	530	15.2	21.0	18.70	242	359	310.4	3.26	4.61	3.69	766.1	1031.6	878.9	87.40	111.20	101.32	372	49	10.5		
November	432	15.6	20.8	18.39	251	354	309.8	3.02	4.45	3.71	709.7	1045.7	871.8	88.90	113.60	100.82	248	105	10.5		
December	394	13.1	20.8	18.18	205	356	305.6	3.10	4.35	3.71	728.5	1022.2	871.8	74.40	111.70	99.98	264	92	11.0		
January	158	13.9	19.6	18.06	222	335	303.2	3.31	4.22	3.67	777.8	991.7	862.4	85.20	106.80	99.26	128	57	12.5		
February	104	16.1	19.7	18.13	264	336	303.6	3.40	4.22	3.76	799.0	991.7	862.4	90.52	107.10	100.08	80	38	5.7		
March	58	14.8	19.8	18.30	235	335	307.0	3.35	4.15	3.76	767.2	975.2	853.6	83.54	108.50	100.76	45	37	9.5		
April	45	15.2	19.7	18.25	247	337	305.0	3.52	4.28	3.83	827.2	984.6	900.0	85.10	106.40	100.98	22	21	14.0		
May	7	16.2	19.9	18.07	265	338	301.4	3.60	4.27	3.84	846.0	1003.4	902.4	90.20	107.90	100.32	4	4	20.5		
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
July	5	15.7	18.1	16.88	254	300	277.6	3.63	4.24	3.90	853.0	996.4	916.5	89.50	102.80	95.92	5	-	0.6		
SEASON 1937-38																					
August	127	15.8	20.5	17.78	262	356	299.6	2.95	4.04	3.43	693.2	949.4	806.0	86.08	105.78	96.70	125	2	2.1		
September	1,206	14.8	21.0	18.25	238	365	308.0	2.91	4.36	3.55	683.8	1024.6	834.2	82.62	110.02	99.30	1,075	601	11.0		
October	1,759	15.2	21.3	18.70	256	368	316.0	3.13	4.17	3.69	735.6	979.8	867.1	76.42	112.82	101.94	1,270	802	19.5		
November	1,570	14.5	21.4	18.91	234	368	319.2	3.19	4.31	3.73	709.7	1042.8	876.5	81.10	114.00	103.02	844	717	21.0		
December	1,171	15.8	22.2	18.89	257	384	319.8	3.24	4.24	3.71	761.4	996.4	871.8	89.48	117.50	102.82	675	535	26.5		
January	1,866	16.6	21.0	18.92	271	365	320.4	3.10	4.26	3.71	728.5	1012.1	871.8	92.80	111.70	102.94	751	638	26.5		
February	1,025	16.6	21.4	18.93	270	372	320.6	3.18	4.31	3.70	747.3	1012.8	869.5	93.38	114.18	102.92	807	774	30.5		
March	380	16.5	21.7	19.01	272	374	321.2	3.28	4.27	3.79	770.8	1003.4	890.6	91.52	115.74	103.78	211	201	24.2		
April	110	17.4	20.5	18.79	288	352	315.8	3.44	4.36	3.86	808.4	1024.6	907.1	97.70	110.40	101.32	54	52	18.5		
May	112	15.4	20.3	18.56	249	346	311.2	3.53	4.23	3.90	829.5	994.0	918.8	87.90	110.32	102.70	68	67	24.4		
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SEASONAL SUMMARIES																					
1934-35	1,979	14.0	21.4	18.62	223	369	314.4	2.97	4.36	3.65	698.0	1024.6	857.7	79.2	113.0	101.38	927	232	15.0		
1935-36	7,075	13.8	22.2	18.58	217	386	312.6	2.78	4.61	3.76	653.3	1083.4	895.3	75.4	116.4	103.06	5,823	4,361	45.0		
1936-37	2,656	13.1	21.0	18.25	205	361	307.0	3.02	4.61	3.71	709.7	1045.7	871.8	74.40	111.70	99.98	1,826	4,356	20.5		
1937-38	8,468	14.5	22.2	18.75	234	384	317.0	2.91	4.36	3.69	683.8	1024.6	867.1	76.42	112.82	101.94	5,887	4,356	30.5		



Table 3. NORTH CAROLINA COTTONSEED: COMPOSITION AND GRADE

Month	Total Number of Samples	PERCENT OIL		YIELDS OIL Pounds per ton of seed		PERCENT AMERICA		YIELDS \$ MEAL Pounds per ton of seed		QUANTITY INDEX		L O W Q U A L I T Y B Y O A U S E S				BELOW GRADE	SUPERIOR QUALITY	GRADE					
		Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Number of Samples	Free Fatty Acids	Moisture		Foreign Matter			Number of Samples	Number of Samples	Min.	Max.	Aver.	
													Number of Samples	Aver. of Max. Reduction	Number of Samples								Aver. of Max. Reduction
SEASON 1934-35																							
August	111	15.7	20.9	17.95	263	361	325.0	2.65	3.85	3.29	83.9	59	4.1	3.95	110	25.2	6.40	72	105	87.9			
September	514	16.1	22.1	19.25	266	387	329.0	2.81	4.01	3.35	83.7	328	7.5	6.75	365	22.7	2.95	67	113	95.7			
October	471	17.1	22.6	19.93	285	396	342.6	3.08	4.15	3.47	94.4	261	7.0	6.50	51	15.0	0.90	73	115	101.6			
November	273	17.0	22.4	19.86	281	393	341.2	3.03	4.45	3.46	95.2	129	6.5	6.05	13	13.4	0.66	75	117	101.9			
December	50	17.5	21.3	19.63	292	371	336.6	3.09	3.86	3.49	96.8	18	5.0	6.05	8	14.6	1.13	86	111	102.2			
January	24	17.6	21.7	20.35	296	378	351.0	3.15	3.85	3.39	95.9	7	3.4	6.50	5	12.9	0.70	95	112	106.1			
February	14	19.1	21.4	20.54	324	373	354.8	3.16	3.78	3.36	103.2	1	2.2	2.00	4	12.5	0.55	101	111	107.1			
March	2	18.8	19.6	19.20	316	332	324.0	3.83	3.84	3.83	103.2	2	5.0	13.50	-	10.8	-	89	92	90.5			
April	-	18.9	18.9	18.90	319	319	319.0	3.77	3.77	3.77	103.2	-	1.8	-	-	9.7	-	103	103	103.0			
May	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SEASON 1935-36																							
August	12	15.9	18.4	16.98	262	311	281.6	3.46	3.89	3.71	83.3	12	1.4	-	12	19.0	4.00	82	98	91.3			
September	481	14.7	22.0	17.68	235	344	296.6	2.91	4.46	3.62	81.5	466	7.5	5.35	458	26.0	3.91	56	114	92.3			
October	1,067	16.2	22.7	19.46	266	396	331.0	2.81	4.24	3.69	91.8	277	12.0	10.60	726	22.4	2.05	50	119	104.2			
November	789	16.0	22.0	19.09	266	383	323.8	2.83	4.49	3.64	85.0	116	19.5	18.22	530	29.3	1.82	45	113	97.8			
December	387	15.2	21.9	18.90	246	382	320.0	3.17	4.39	3.64	86.3	110	14.5	18.15	263	17.8	1.69	48	113	93.8			
January	108	16.5	21.0	19.11	281	363	324.2	3.15	4.55	3.67	94.7	55	19.0	16.84	17	15.4	1.21	48	112	97.6			
February	48	17.1	19.5	18.57	283	363	318.4	3.40	4.44	3.76	95.0	34	16.0	19.57	14	15.5	1.13	48	113	94.8			
March	17	16.4	20.8	18.76	269	358	316.2	3.42	4.24	3.74	93.0	9	16.0	23.23	6	14.8	1.53	50	105	89.5			
April	2	17.5	17.9	17.70	289	298	293.0	4.02	4.07	4.05	99.4	2	4.7	6.75	1	12.3	0.30	85	98	91.5			
May	5	17.4	19.0	18.04	287	322	301.8	3.53	4.23	3.76	99.0	5	18.5	3.53	-	10.9	-	50	95	89.4			
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SEASON 1936-37																							
August	397	15.9	21.0	18.77	251	367	318.4	2.87	4.12	3.49	88.62	343	5.5	5.50	341	24.2	2.6	77.0	110.0	98.7			
September	510	15.5	21.1	18.90	254	365	313.0	2.86	4.04	3.52	86.32	475	5.2	4.50	464	25.5	3.1	72.0	111.0	96.3			
October	359	14.4	20.3	18.66	234	349	316.2	3.03	4.02	3.58	91.18	124	10.3	6.00	266	20.3	2.5	54.0	108.5	97.2			
November	258	15.6	21.8	18.51	256	379	319.2	3.16	4.25	3.60	96.76	110	7.5	6.50	183	23.3	1.7	52.5	111.0	97.7			
December	172	13.2	20.4	17.97	273	350	302.4	2.92	4.01	3.53	71.52	125	14.0	12.50	159	21.7	3.4	27.5	108.5	86.2			
January	172	15.9	20.5	18.46	260	354	312.2	3.06	4.03	3.54	89.70	144	16.0	16.50	138	22.2	2.7	39.0	105.5	83.5			
February	108	16.3	20.9	18.71	267	360	312.2	3.21	4.03	3.56	92.42	105	20.0	32.00	55	15.7	1.5	46.0	105.5	70.4			
March	32	16.1	20.2	18.21	266	346	307.2	3.29	3.94	3.58	89.32	32	20.0	37.50	12	15.3	1.7	44.5	96.5	60.1			
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SEASON 1937-38																							
August	442	14.5	21.0	18.22	233	364	307.4	3.05	4.11	3.61	81.98	344	15.0	6.10	334	23.2	4.00	51.5	110.0	95.3			
September	595	14.4	21.3	18.62	229	369	314.4	2.94	4.33	3.69	82.74	405	18.5	5.70	333	20.8	2.06	48	113.5	99.0			
October	420	15.1	21.0	18.96	248	364	320.2	3.09	4.20	3.75	84.36	192	10.0	6.50	59	17.5	1.10	55	111.5	99.8			
November	195	16.4	21.1	18.80	270	363	317.0	3.56	4.16	3.79	91.90	95	7.0	9.05	36	16.0	0.66	68.5	110.0	98.1			
December	192	15.7	20.8	18.52	258	359	312.4	3.33	4.17	3.72	87.20	113	13.5	11.65	65	15.4	0.95	52.0	109.5	94.0			
January	103	17.2	20.3	18.53	286	349	311.6	3.29	4.08	3.78	96.06	140	13.0	9.73	27	13.4	0.56	51.0	107.5	96.3			
February	56	16.5	19.3	18.59	277	340	312.8	3.17	4.11	3.77	94.50	24	10.5	17.09	8	13.2	0.53	51.0	107.0	96.6			
March	25	17.0	19.5	18.37	281	310	307.4	3.61	4.14	3.45	95.50	3	6.0	14.33	3	13.2	0.66	76.0	106.0	99.8			
April	19	17.5	19.9	18.96	290	340	319.2	3.72	4.16	3.91	94.04	7	10.0	12.67	-	11.7	-	61.0	108.0	99.4			
May	8	17.5	19.5	18.66	290	311	313.2	3.73	4.00	3.83	96.52	1	9.3	37.50	-	11.6	-	66.0	105.5	97.8			
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SEASON 1938-39																							
August	1,460	15.7	22.6	19.51	263	396	334.6	2.65	4.45	3.40	83.9	1,034	7.5	6.45	556	26.2	3.33	67	117	98.7			
September	2,916	14.7	22.7	18.95	255	396	321.0	2.83	4.55	3.66	81.5	701	13.5	13.99	2,005	29.3	2.25	45	119	97.6			
October	2,008	13.2	21.3	18.58	243	379	314.6	2.86	4.25	3.54	71.52	743	20.0	14.20	1,618	27.1	2.67	27.5	111.0	93.2			
November	2,095	14.4	21.3	18.61	229	369	314.2	2.94	4.33	3.71	81.98	705	18.5	8.09	885	23.2	2.46	49.5	113.5	97.6			





Table 5.

## ALABAMA

DISTRIBUTION OF GRADES OF COTTONSEED  
The number of shipments classified in each grade by months and seasons

GRADES	SEASON 1934-35												SEASON 1935-36												SEASON 1936-37												SEASON 1937-38																					
	Months												Months												Months												Months																					
	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season						
Below 80.0.....	1	-	-	-	-	-	-	-	-	-	-	-	297	4	-	3	9	8	2	-	-	-	-	-	-	26	38	152	186	210	225	191	206	126	51	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,389			
80.0.....	6	-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	3	4	17	9	16	11	7	10	5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81			
80.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	15	11	10	15	5	2	9	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72		
81.0.....	3	-	-	-	-	-	-	-	-	-	-	-	50	3	-	1	1	1	-	-	-	-	-	-	-	5	5	8	14	10	10	9	4	9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69			
81.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	17	16	12	7	6	7	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71		
82.0.....	5	1	-	-	-	-	-	-	-	-	-	-	45	2	2	-	-	-	-	-	-	-	-	-	-	3	14	18	11	13	11	10	7	6	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108				
82.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106
83.0.....	4	2	-	-	-	-	-	-	-	-	-	-	45	3	1	1	-	2	-	-	-	-	-	-	-	5	8	30	14	12	12	10	10	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101				
83.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109
84.0.....	6	2	-	-	-	-	-	-	-	-	-	-	64	4	2	1	-	1	-	-	-	-	-	-	-	8	13	33	21	13	13	13	9	7	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119			
84.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85.0.....	7	5	-	-	-	-	-	-	-	-	-	-	78	7	1	1	4	1	-	-	-	-	-	-	-	14	9	35	24	9	11	16	11	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125			
85.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110
86.0.....	4	2	-	-	-	-	-	-	-	-	-	-	103	14	2	-	2	1	-	-	-	-	-	-	-	6	16	26	29	16	12	11	8	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117			
86.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143
87.0.....	8	1	-	-	-	-	-	-	-	-	-	-	117	7	-	-	-	-	-	-	-	-	-	-	-	10	12	45	27	17	11	9	15	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126		
87.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143
88.0.....	11	2	-	-	-	-	-	-	-	-	-	-	148	15	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	167	
88.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	146
89.0.....	7	4	-	-	-	-	-	-	-	-	-	-	142	20	5	1	4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137		
89.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	154
90.0.....	11	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	153
90.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126
91.0.....	12	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	134
91.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	148
92.0.....	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	141
92.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	153
93.0.....	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143
93.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127
94.0.....	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									



GEORGIA

GRADES	SEASON 1934-35												SEASON 1935-36												SEASON 1936-37												SEASON 1937-38											
	Months												Months												Months												Months											
	A	S	O	N	D	J	F	M	A	M	J	J Season	A	S	O	N	D	J	F	M	A	M	J	J Season	A	S	O	N	D	J	F	M	A	M	J	J Season												
Below 80.	5	2	1	2	3	2	-	1	2	-	2	20	13	333	567	246	158	134	241	234	83	47	6	-	2,062	63	2	115	246	278	199	240	337	61	24	14	3	-	1,521									
80.0.....	3	-	-	-	-	-	-	-	2	-	1	7	1	15	31	6	10	4	8	4	3	2	1	-	85	10	6	9	5	4	11	6	1	-	-	-	-	-	42									
80.5.....	1	1	2	-	-	-	-	-	-	-	-	4	2	12	26	6	4	2	8	4	-	3	-	-	10	1	5	2	3	3	9	-	-	-	-	-	34											
81.0.....	1	1	2	-	-	-	-	-	-	-	-	-	6	-	-	1	1	1	-	-	1	-	-	10	1	1	2	5	7	9	6	3	1	-	-	-	47											
81.5.....	1	1	1	-	-	-	-	-	-	-	-	3	6	1	1	-	2	1	-	-	-	-	-	11	1	1	15	7	8	8	4	9	1	2	-	-	31											
82.0.....	3	-	1	-	-	-	-	-	-	-	-	5	8	20	15	9	2	4	5	11	2	4	-	72	3	1	12	4	12	7	6	5	1	1	2	-	55											
82.5.....	3	-	1	-	-	-	-	-	-	-	-	5	8	15	22	2	9	3	10	6	3	7	-	85	9	1	15	9	9	8	5	4	6	2	-	50												
83.0.....	4	-	1	2	-	-	-	-	-	-	-	8	9	23	22	8	6	3	10	4	4	1	-	90	13	1	10	4	9	5	4	6	-	-	-	-	40											
83.5.....	4	-	1	2	-	-	-	-	-	-	-	8	15	22	23	4	11	3	7	12	2	1	-	100	15	4	18	12	11	8	7	10	4	-	-	-	52											
84.0.....	4	-	1	-	-	-	-	-	-	-	-	6	12	43	27	6	9	3	14	13	2	2	-	131	14	4	17	14	6	7	7	7	-	-	-	75												
84.5.....	4	-	1	-	-	-	-	-	-	-	-	2	12	43	27	6	9	3	14	13	2	2	-	131	14	4	17	14	6	7	7	7	-	-	-	59												
85.0.....	7	-	-	-	-	-	-	-	-	-	-	8	16	49	28	10	7	1	10	2	1	-	-	124	10	1	15	12	8	4	8	11	3	-	-	-	73											
85.5.....	2	-	4	1	-	-	-	-	-	-	-	7	12	40	29	12	7	3	9	9	1	2	-	-	124	16	5	25	17	5	4	11	6	1	-	-	-	67										
86.0.....	12	1	6	-	-	-	-	-	-	-	-	20	16	66	24	3	8	4	8	7	1	1	-	138	34	8	28	11	12	8	5	2	4	-	-	-	61											
86.5.....	15	3	7	-	1	-	-	-	-	-	-	27	23	67	29	13	7	7	13	3	3	2	-	167	39	6	23	11	3	6	12	11	3	-	-	-	76											
87.0.....	4	3	3	1	2	1	1	-	-	-	-	16	28	53	19	15	6	9	15	5	2	4	-	156	8	33	16	18	10	9	13	2	2	3	-	-	112											
87.																																																

Table 7.

NORTH CAROLINA  
DISTRIBUTION OF GRADES OF COTTONSEED  
The number of shipments classified in each grade by months and seasons

GRADE	SEASON 1934-35												SEASON 1935-36												SEASON 1936-37												SEASON 1937-38											
	Months												Months												Months												Months											
	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season									
Below 60.	-	11	28	5	2	-	-	-	-	-	-	-	46	-	18	41	69	44	11	10	5	-	3	-	-	201	-	18	41	69	44	11	10	5	-	3	-	-	-	226								
60.0.....	-	4	3	1	-	-	-	-	-	-	-	-	8	-	5	2	1	-	-	-	-	-	-	-	-	12	-	5	2	1	-	-	-	-	-	-	-	-	-	2								
60.5.....	-	6	7	-	1	-	-	-	-	-	-	-	14	-	5	2	3	1	2	-	-	-	-	-	-	14	-	5	2	3	1	2	-	-	-	-	-	-	-	5								
61.0.....	-	3	8	-	3	-	-	-	-	-	-	-	14	-	1	8	5	4	2	-	-	-	-	-	-	20	-	1	8	5	4	2	-	-	-	-	-	-	-	6								
61.5.....	-	4	13	2	3	-	-	-	-	-	-	-	22	-	14	3	2	-	-	-	-	-	-	-	-	19	-	2	6	1	1	1	1	1	-	-	-	-	-	17								
62.0.....	-	6	9	1	4	-	-	-	-	-	-	-	20	-	12	2	4	3	1	-	-	-	-	-	-	22	-	1	3	1	1	2	1	1	-	-	-	-	-	11								
62.5.....	-	8	10	2	-	-	-	-	-	-	-	-	20	-	1	9	3	3	3	-	-	-	-	-	-	20	-	2	4	1	1	3	2	1	-	-	-	-	8									
63.0.....	-	3	12	5	-	1	-	-	-	-	-	-	21	-	1	17	7	2	4	-	-	-	-	-	-	31	-	2	4	1	1	2	3	1	-	-	-	-	16									
63.5.....	-	4	10	7	2	-	-	-	-	-	-	-	23	-	21	7	1	2	-	-	-	-	-	-	-	31	-	3	7	1	1	2	3	1	-	-	-	-	25									
64.0.....	-	5	10	3	3	1	-	-	-	-	-	-	22	-	3	20	8	2	4	-	2	-	-	-	-	37	-	4	6	-	-	2	2	2	-	-	-	-	14									
64.5.....	-	10	14	6	-	-	-	-	-	-	-	-	31	-	16	6	6	4	1	1	-	-	-	-	-	34	-	1	13	3	2	2	1	3	-	-	-	-	22									
65.0.....	-	5	16	7	1	2	-	-	-	-	-	-	31	-	30	11	8	3	-	1	-	-	-	-	-	53	-	5	15	12	1	1	2	4	1	-	-	-	19									
65.5.....	-	8	14	5	5	-	-	-	-	-	-	-	32	-	2	36	17	4	5	2	1	-	-	-	-	67	-	6	18	1	2	2	3	5	1	-	-	-	39									
66.0.....	-	4	15	8	3	1	-	-	-	-	-	-	32	-	1	32	12	16	3	4	1	-	-	-	-	69	-	8	21	1	2	2	2	1	1	-	-	-	37									
66.5.....	-	9	19	10	5	1	-	-	-	-	-	-	44	-	1	25	15	9	5	1	1	-	-	-	-	58	-	11	20	7	5	7	1	1	5	-	-	-	29									
67.0.....	-	6	21	11	4	2	-	-	-	-	-	-	44	-	1	35	16	19	8	3	-	-	-	-	-	82	-	13	24	18	6	3	3	3	-	-	-	12										
67.5.....	-	4	15	11	10	1	1	-	-	-	-	-	42	-	25	32	20	8	3	-	1	-	-	-	-	90	-	22	26	14	8	2	2	2	-	-	-	74										
68.0.....	-	1	21	17	10	2	-	-	-	-	-	-	51	-	1	24	22	25	14	2	2	1	-	-	-	91	-	20	32	20	5	4	2	2	1	1	-	-	85									
68.5.....	-	3	23	12	7	1	-	-	-	-	-	-	46	-	1	26	34	32	17	2	1	-	-	-	-	113	-	31	22	21	13	9	3	3	-	-	-	100										
69.0.....	-	2	18	16	10	2	-	-	-	-	-	-	48	-	1	19	31	35	19	8	2	-	-	-	-	116	-	44	33	20	4	4	1	1	1	-	-	-	109									
69.5.....	-	2	21	18	9	-	1	-	-	-	-	-	51	-	14	49	36	31	2	-	-	-	-	-	-	132	-	6	33	28	16	11	1	1	1	-	-	-	102									
70.0.....	-	17	18	18	3	1	-	-	-	-	-	-	57	-	14	54	54	29	4	3	1	-	-	-	-	159	-	27	27	22	21	4	1	-	-	-	-	-	102									
70.5.....	-	1	29	27	7	1	1	1	-	-	-	-	67	-	14	70	51	32	9	1	-	-	-	-	-	177	-	24	34	17	17	2	2	4	-	-	-	-	34									
71.0.....	-	1	24	30	15	5	1	-	-	-	-	-	76	-	12	50	66	31	8	2	1	-	-	-	-	170	-	30	23	11	11	1	1	1	-	-	-	-	98									
71.5.....	-	31	30	17	1	1	-	-	-	-	-	-	81	-	7	72	52	23	9	5	3	-	-	-	-	171	-	21	16	9	12	1	1	1	-	-	-	79										
72.0.....	-	26	34	13	3	2	1	-	-	-	-	-	83	-	5	62	57	28	4	4	2	-	-	-	-	162	-	17	16	11	4	1	1	2	-	-	-	19										
72.5.....	-	1	23	29	14	4	2	1	-	-	-	-	74	-	7	83	57	15	5	2	1	-	-	-	-	170	-	13	9	6	5	-	1	-	-	-	-	27										
73.0.....	-	13	31	25	5	1	2	-	-	-	-	-	77	-	3	77	36	16	7	4	1	-	-	-	-	144	-	8	10	8	5	-	1	2	1	-	-	-	33									
73.5.....	-	14	23	17	2	2	2	-	-	-	-	-	60	-	3	53	42	17	5	1	-	-	-	-	-	121	-	11	3	1	2	-	-	-	-	-	-	16										
74.0.....	-	7	25	24	4	3	3	-	-	-	-	-	66	-	1	56	27	9	5	3	-	-	-	-	-	101	-	6	1	1	1	1	-	-	-	-	-	17										
74.5.....	-	9	25	15	3	3	2	-	-	-	-	-	57	-	32	15	1	5	-	-	-	-	-	-	-	53	-	2	3	7	4	1	1	-	-	-	-	3										
75.0.....	-	5	22	10	3	2	-	-	-	-	-	-	42	-	1	36	15	2	2	-	-	-	-	-	-	56	-	2	1	5	6	5	-	1	-	-	-	-	5									
75.5.....	-	6	10	7	2	-	2	-	-	-	-	-	27	-	1	22	8	1	-	-	-	-	-	-	-	32	-	1	1	-	2	-	-	-	-	-	-	-	1									
76.0.....	-	2	8	3	-	3	-	-	-	-	-	-	16	-	1	29	6	2	3	-	-	-	-	-	-	41	-	2	8	3	-	-	-	-	-	-	-	-	4									
76.5.....	-	1	2	3	-	-	-	-	-	-	-	-	6	-	1	16	2	1	-	1	-	-	-	-	-	20	-	2	1	1	-	-	-	-	-	-	-	-	3									
77.0.....	-	4	4	-	-	-	-	-	-	-	-	-	4	-	1	9	-	-	-	-	-	-	-	-	-	10	-	2	-	-	-	-	-	-	-	-	-	-	1									
77.5.....	-	2	2	-	-	-	-	-	-	-	-	-	4	-	9	-	-	-	-	-	-	-	-	-	-	9	-	3	-	-	-	-	-	-	-	-	-	-	4									
78.0.....	-	1	1	-	-	-	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-	-	-	-	-	3	-	2	-	-	-	-	-	-	-	-	-	-	3									
78.5.....	-	1	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	1									
79.0.....	-	111	54	471	273	84	14	2	-	-	-	-	1,460	-	12	1,067	387	108	17	2	5	-	-	-	-	2,916	-	397	510	258	172	108	32	-	-	-	-	-	-	2,008								
79.5.....	-	442	555	420	195	192	56	19	-	-	-	-	2,055	-	442	555	420	195	192	56	19	-	-	-	-	2,055	-	442	555	420	195	192	56	19	-	-	-	-	-	2,055								



SOUTH CAROLINA

DISTRIBUTION OF GRADES OF COTTONS

The number of shipments classified in each grade by month and season

[illegible]